Performed By:

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Report Date: 2021-03-24 **Preliminary Report**

South Dakota Agricultural Laboratories has examined the sample of

Limfinite Package Id :	20210305-004
Lab Sample Id :	21PE001509
Customer Sample Id :	Test #1-1444
Sample Description :	Water
Date Collected :	2021-03-01
Date Received :	2021-03-05

RESULTS

ANALYTE	UNIT	AS RECEIVED	DETECTION LIMIT	METHOD	DATE OF EXTRACTION	DATE OF ANALYSIS
Abamectin	ppb	ND	10	LC-MS/MS	2021-03-12	2021-03-12
Acetamprid	ppb	ND	3	LC-MS/MS	2021-03-08	2021-03-09
Azoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Brassinazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Clothianidin	ppb	ND	8	LC-MS/MS	2021-03-08	2021-03-09
Cyproconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Desthio-Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Difenoconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Dimoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Dinotefuron	ppb	ND	4	LC-MS/MS	2021-03-08	2021-03-09
Epoxiconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Fluconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Fluoxastrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Glufosinate	ppb	ND	10	LC-MS/MS	2021-03-09	2021-03-11
Glyphosate	ppb	ND	10	LC-MS/MS	2021-03-09	2021-03-11
Imidacloprid	ppb	ND	4	LC-MS/MS	2021-03-08	2021-03-09
Ipconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Isavuconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Metconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Nitenpyram	ppb	ND	8	LC-MS/MS	2021-03-08	2021-03-09
Orysastrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Picoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Propiconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Pyraclostrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Ravuconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Sulfonic Acid Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-20
Tebuconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08

Tetraconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Thiabendazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Thiacloprid	ppb	ND	6	LC-MS/MS	2021-03-08	2021-03-09
Thiamethoxam	ppb	ND	3	LC-MS/MS	2021-03-08	2021-03-09
Trifloxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Uniconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Voriconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08

QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb	ND	81.1	ND	ND	ND
Acetamprid	ppb	21PE001504	106	ND	ND	ND
Azoxystrobin	ppb	ND	102	ND	ND	ND
Brassinazole	ppb	ND	106	ND	ND	ND
Clothianidin	ppb	21PE001504	86.7	ND	ND	ND
Cyproconazole	ppb	ND	90.2	ND	ND	ND
Desthio-Prothioconazole	ppb	ND	96.9	ND	ND	ND
Difenoconazole	ppb	ND	92.3	ND	ND	ND
Dimoxystrobin	ppb	ND	110	ND	ND	ND
Dinotefuron	ppb	21PE001504	109	ND	ND	ND
Epoxiconazole	ppb	ND	115	ND	ND	ND
Fluconazole	ppb	ND	98.3	ND	ND	ND
Fluoxastrobin	ppb	ND	108	ND	ND	ND
Glufosinate	ppb	ND	98.9	ND	ND	ND
Glyphosate	ppb	ND	102	ND	ND	ND
Imidacloprid	ppb	21PE001504	109	ND	ND	ND
Ipconazole	ppb	ND	94.9	ND	ND	ND
Isavuconazole	ppb	ND	87.5	ND	ND	ND
Metconazole	ppb	ND	99.3	ND	ND	ND
Nitenpyram	ppb	21PE001504	108	ND	ND	ND
Orysastrobin	ppb	ND	95.4	ND	ND	ND
Picoxystrobin	ppb	ND	98.2	ND	ND	ND
Propiconazole	ppb	ND	108	ND	ND	ND
Prothioconazole	ppb	ND	120	ND	ND	ND
Pyraclostrobin	ppb	ND	86.9	ND	ND	ND
Ravuconazole	ppb	ND	85.4	ND	ND	ND
Sulfonic Acid Prothioconazole	ppb	ND	85.7	ND	ND	ND
Tebuconazole	ppb	ND	90.0	ND	ND	ND
Tetraconazole	ppb	ND	86.4	ND	ND	ND
Thiabendazole	ppb	ND	101	ND	ND	ND
Thiacloprid	ppb	21PE001504	102	ND	ND	ND
Thiamethoxam	ppb	21PE001504	105	ND	ND	ND
Trifloxystrobin	ppb	ND	79.1	ND	ND	ND
Uniconazole	ppb	ND	90.2	ND	ND	ND
Voriconazole	ppb	ND	100	ND	ND	ND

Comments:

Definitions:

ppb - parts per billion

Detection Limit - Lowest concentration that can be quantitatively reported with confidence

ND - Not Detected above the limit of quantification
Duplicate - Concentration found in repeat sample analysis
Spike Recovery - Recovery based on a known amount of active ingredient spiked into a similar-matrix, blank sample
Matrix Blank - A similar-matrix, blank sample is evaluated
Process Blank - A sample without any matrix (soil, vegetation etc) is processed through the sample analysis procedure
Instrument Blank - Injection solvent is run to demonstrate no carryover between injections on the instrument

BRIEF METHOD DESCRIPTION

Strobins in Water - Purpose and Scope
Strobins are fairly polar and are usually determined by LC-MS/MS. The limits of detection for the strobins are 1 ppb for limit of detection and 5 ppb for limit of quantitation.

Strobins in Water - References
J. Klein and L. Alder, JAOACI 86(5): 101501037 (2003)

Strobins in Water - Basic Principles
Strobin water samples are extracted into aqueous methanol followed by filtration and preparation for LC-MS/MS.

This SOP is for the determination of Strobins in soil, water and vegetation. The limits of detection for soil, water and vegetation range from 1 ppb to 2 ppb. The limit of quantitation is 5 ppb for soil, water and vegetation.

The Strobins include: Fluoxastrobin, Trifloxystrobin, Orysastrobin, Pyraclostrobin, Azoxystrobin, Picoxystrobin and Dimoxystrobin.

Azoles in soil, vegetation and water - Purpose and Scope
Azoles are not ionic and are soluble in many organic solvents. Several of them are volatile enough for gas chromatography, but in this laboratory, LC-MS/MS has been used for azole analysis. The limits of detection for the azoles are 1 ppb for limit of detection and 5 ppb for limit of quantitation.

Azoles in soil, vegetation and water - References
Analytical Methods for Pesticides and Plant Growth Regulators. (G. Zweig, ed.) Vol.X, pp. 347 19.1.2.2 Klein and Alder. JAOAC. 86(5): 1015-37 (2003). 19.1.2.3 Ramsteiner et al. JAOAC. 57(1): 192-201 (1974).

Azoles in soil, vegetation and water - Basic Principles
Azole soil, vegetation, and water samples can be extracted in aqueous methanol, filtered and prepared for LC-MS/MS analysis.

Neonicotinoids in soil, water and vegetation - Purpose and Scope
Neonicotinoids are a class of neuro-active insecticides chemically similar to nicotine. The limits of detection for the neonicotinoids are 1 ppb for limit of detection and 5 ppb for limit of quantitation.

Neonicotinoids in soil, water and vegetation - References
J. Klein and L. Alder, JAOACI 86(5): 101501037 (2003)

Neonicotinoids in soil, water and vegetation - Basic Principles
Neonicotinoids are fairly polar and are extracted with aqueous acetonitrile, filtered and prepared for LC-MS/MS analysis.

Reviewed and approved by Regina Wixon, Ph.D.

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Report Date: 2021-03-24 **Preliminary Report**

South Dakota Agricultural Laboratories has examined the sample of

Limfinite Package Id :	20210305-004
Lab Sample Id :	21PE001510
Customer Sample Id :	Test #2-1443
Sample Description :	Water
Date Collected :	2021-03-01
Date Received :	2021-03-05

RESULTS

ANALYTE	UNIT	AS RECEIVED	DETECTION LIMIT	METHOD	DATE OF EXTRACTION	DATE OF ANALYSIS
Abamectin	ppb	ND	10	LC-MS/MS	2021-03-12	2021-03-12
Acetamprid	ppb	ND	3	LC-MS/MS	2021-03-08	2021-03-09
Azoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Brassinazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Clothianidin	ppb	ND	8	LC-MS/MS	2021-03-08	2021-03-09
Cyproconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Desthio-Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Difenoconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Dimoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Dinotefuron	ppb	ND	4	LC-MS/MS	2021-03-08	2021-03-09
Epoxiconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Fluconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Fluoxastrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Glufosinate	ppb	ND	10	LC-MS/MS	2021-03-09	2021-03-11
Glyphosate	ppb	ND	10	LC-MS/MS	2021-03-09	2021-03-11
Imidacloprid	ppb	ND	4	LC-MS/MS	2021-03-08	2021-03-09
Ipconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Isavuconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Metconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Nitenpyram	ppb	ND	8	LC-MS/MS	2021-03-08	2021-03-09
Orysastrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Picoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Propiconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Pyraclostrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Ravuconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Sulfonic Acid Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-20
Tebuconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08

Tetraconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Thiabendazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Thiacloprid	ppb	ND	6	LC-MS/MS	2021-03-08	2021-03-09
Thiamethoxam	ppb	ND	3	LC-MS/MS	2021-03-08	2021-03-09
Trifloxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Uniconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Voriconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08

QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb	21PE001509	81.1	ND	ND	ND
Acetamprid	ppb	21PE001504	106	ND	ND	ND
Azoxystrobin	ppb	21PE001509	102	ND	ND	ND
Brassinazole	ppb	21PE001509	106	ND	ND	ND
Clothianidin	ppb	21PE001504	86.7	ND	ND	ND
Cyproconazole	ppb	21PE001509	90.2	ND	ND	ND
Desthio-Prothioconazole	ppb	21PE001509	96.9	ND	ND	ND
Difenoconazole	ppb	21PE001509	92.3	ND	ND	ND
Dimoxystrobin	ppb	21PE001509	110	ND	ND	ND
Dinotefuron	ppb	21PE001504	109	ND	ND	ND
Epoxiconazole	ppb	21PE001509	115	ND	ND	ND
Fluconazole	ppb	21PE001509	98.3	ND	ND	ND
Fluoxastrobin	ppb	21PE001509	108	ND	ND	ND
Glufosinate	ppb	21PE001509	98.9	ND	ND	ND
Glyphosate	ppb	21PE001509	102	ND	ND	ND
Imidacloprid	ppb	21PE001504	109	ND	ND	ND
Ipconazole	ppb	21PE001509	94.9	ND	ND	ND
Isavuconazole	ppb	21PE001509	87.5	ND	ND	ND
Metconazole	ppb	21PE001509	99.3	ND	ND	ND
Nitenpyram	ppb	21PE001504	108	ND	ND	ND
Orysastrobin	ppb	21PE001509	95.4	ND	ND	ND
Picoxystrobin	ppb	21PE001509	98.2	ND	ND	ND
Propiconazole	ppb	21PE001509	108	ND	ND	ND
Prothioconazole	ppb	21PE001509	120	ND	ND	ND
Pyraclostrobin	ppb	21PE001509	86.9	ND	ND	ND
Ravuconazole	ppb	21PE001509	85.4	ND	ND	ND
Sulfonic Acid Prothioconazole	ppb	21PE001509	85.7	ND	ND	ND
Tebuconazole	ppb	21PE001509	90.0	ND	ND	ND
Tetraconazole	ppb	21PE001509	86.4	ND	ND	ND
Thiabendazole	ppb	21PE001509	101	ND	ND	ND
Thiacloprid	ppb	21PE001504	102	ND	ND	ND
Thiamethoxam	ppb	21PE001504	105	ND	ND	ND
Trifloxystrobin	ppb	21PE001509	79.1	ND	ND	ND
Uniconazole	ppb	21PE001509	90.2	ND	ND	ND
Voriconazole	ppb	21PE001509	100	ND	ND	ND

Comments:

Definitions:

ppb - parts per billion

Detection Limit - Lowest concentration that can be quantitatively reported with confidence

ND - Not Detected above the limit of quantification
Duplicate - Concentration found in repeat sample analysis
Spike Recovery - Recovery based on a known amount of active ingredient spiked into a similar-matrix, blank sample
Matrix Blank - A similar-matrix, blank sample is evaluated
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The Strobins include: Fluoxastrobin, Trifloxystrobin, Orysastrobin, Pyraclostrobin, Azoxystrobin, Picoxystrobin and Dimoxystrobin.

Azoles in soil, vegetation and water - Purpose and Scope
Azoles are not ionic and are soluble in many organic solvents. Several of them are volatile enough for gas chromatography, but in this laboratory, LC-MS/MS has been used for azole analysis. The limits of detection for the azoles are 1 ppb for limit of detection and 5 ppb for limit of quantitation.

Azoles in soil, vegetation and water - References
Analytical Methods for Pesticides and Plant Growth Regulators. (G. Zweig, ed.) Vol.X, pp. 347 19.1.2.2 Klein and Alder. JAOAC. 86(5): 1015-37 (2003). 19.1.2.3 Ramsteiner et al. JAOAC. 57(1): 192-201 (1974).

Azoles in soil, vegetation and water - Basic Principles
Azole soil, vegetation, and water samples can be extracted in aqueous methanol, filtered and prepared for LC-MS/MS analysis.

Neonicotinoids in soil, water and vegetation - Purpose and Scope
Neonicotinoids are a class of neuro-active insecticides chemically similar to nicotine. The limits of detection for the neonicotinoids are 1 ppb for limit of detection and 5 ppb for limit of quantitation.

Neonicotinoids in soil, water and vegetation - References
J. Klein and L. Alder, JAOACI 86(5): 101501037 (2003)

Neonicotinoids in soil, water and vegetation - Basic Principles
Neonicotinoids are fairly polar and are extracted with aqueous acetonitrile, filtered and prepared for LC-MS/MS analysis.

Reviewed and approved by Regina Wixon, Ph.D.

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Report Date: 2021-03-24 **Preliminary Report**

South Dakota Agricultural Laboratories has examined the sample of

Limfinite Package Id :	20210305-004
Lab Sample Id :	21PE001511
Customer Sample Id :	Biochar Bagged
Sample Description :	Biochar
Date Collected :	2021-03-03
Date Received :	2021-03-05

RESULTS

ANALYTE	UNIT	AS RECEIVED	DETECTION LIMIT	METHOD	DATE OF EXTRACTION	DATE OF ANALYSIS
Abamectin	ppb	Pending				
Acetamiprid	ppb	ND	5	JAOACI 86(5)	2021-03-08	2021-03-09
Azoxystrobin	ppb	208	5	LC-MS/MS	2021-03-08	2021-03-10
Brassinazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Clothianidin	ppb	8790	5	JAOACI 86(5)	2021-03-08	2021-03-09
Cyproconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Desthio-Prothioconazole	ppb	194	5	LC-MS/MS	2021-03-08	2021-03-08
Difenoconazole	ppb	437	5	LC-MS/MS	2021-03-08	2021-03-08
Dimoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Dinotefuran	ppb	ND	5	JAOACI 86(5)	2021-03-08	2021-03-09
Epoxiconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Fluconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Fluoxastrobin	ppb	1860	5	LC-MS/MS	2021-03-08	2021-03-10
Glufosinate	ppb	ND	10	J. Agric. Food Chem. 34 535-538	2021-03-08	2021-03-11
Glyphosate	ppb	ND	10	J. Agric. Food Chem. 34 535-538	2021-03-08	2021-03-11
Imidacloprid	ppb	449	5	JAOACI 86(5)	2021-03-08	2021-03-09
Ipconazole	ppb	1210	5	LC-MS/MS	2021-03-08	2021-03-08
Isavuconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Metconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Nitenpyram	ppb	ND	5	JAOACI 86(5)	2021-03-08	2021-03-09
Orysastrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Picoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Propiconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Prothioconazole	ppb	794	5	LC-MS/MS	2021-03-08	2021-03-08

Pyraclostrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Ravuconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Sulfonic Acid Prothioconazole	ppb	22.6	5	LC-MS/MS	2021-03-08	2021-03-23
Tebuconazole	ppb	362	5	LC-MS/MS	2021-03-08	2021-03-08
Tetraconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Thiabendazole	ppb	4520	5	LC-MS/MS	2021-03-08	2021-03-08
Thiacloprid	ppb	ND	5	JAOACI 86(5)	2021-03-08	2021-03-09
Thiamethoxam	ppb	213	5	JAOACI 86(5)	2021-03-08	2021-03-09
Trifloxystrobin	ppb	98.1	5	LC-MS/MS	2021-03-08	2021-03-10
Uniconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Voriconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08

QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb					
Acetamiprid	ppb	ND	102	ND	ND	ND
Azoxystrobin	ppb	216	112	ND	ND	ND
Brassinazole	ppb	21PE001511	88.6	ND	ND	ND
Clothianidin	ppb	7880	127	ND	ND	ND
Cyproconazole	ppb	21PE001511	89.4	ND	ND	ND
Desthio-Prothioconazole	ppb	209	81.7	ND	ND	ND
Difenoconazole	ppb	467	99.5	ND	ND	ND
Dimoxystrobin	ppb	ND	109	ND	ND	ND
Dinotefuran	ppb	ND	88.7	ND	ND	ND
Epoxiconazole	ppb	21PE001511	115	ND	ND	ND
Fluconazole	ppb	ND	115	ND	ND	ND
Fluoxastrobin	ppb	1990	119	ND	ND	ND
Glufosinate	ppb	ND	103	ND	ND	ND
Glyphosate	ppb	ND	101	ND	ND	ND
Imidacloprid	ppb	430	108	ND	ND	ND
Ipconazole	ppb	1370	104	ND	ND	ND
Isavuconazole	ppb	ND	114	ND	ND	ND
Metconazole	ppb	ND	108	ND	ND	ND
Nitenpyram	ppb	ND	125	ND	ND	ND
Orysastrobin	ppb	ND	96.4	ND	ND	ND
Picoxystrobin	ppb	ND	113	ND	ND	ND
Propiconazole	ppb	ND	94.0	ND	ND	ND
Prothioconazole	ppb	921	85.8	ND	ND	ND
Pyraclostrobin	ppb	ND	107	ND	ND	ND
Ravuconazole	ppb	ND	82.0	ND	ND	ND
Sulfonic Acid Prothioconazole	ppb	23.8	121	ND	ND	ND
Tebuconazole	ppb	366	107	ND	ND	ND
Tetraconazole	ppb	ND	82.1	ND	ND	ND
Thiabendazole	ppb	5040	103	ND	ND	ND
Thiacloprid	ppb	ND	106	ND	ND	ND
Thiamethoxam	ppb	205	97.6	ND	ND	ND
Trifloxystrobin	ppb	106	115	ND	ND	ND
Uniconazole	ppb	ND	88.2	ND	ND	ND
Voriconazole	ppb	ND	83.7	ND	ND	ND

Comments:

Definitions:

ppb - parts per billion

Detection Limit - Lowest concentration that can be quantitatively reported with confidence

ND - Not Detected above the limit of quantification

Duplicate - Concentration found in repeat sample analysis

Spike Recovery - Recovery based on a known amount of active ingredient spiked into a similar-matrix, blank sample

Matrix Blank - A similar-matrix, blank sample is evaluated

Process Blank - A sample without any matrix (soil, vegetation etc) is processed through the sample analysis procedure

Instrument Blank - Injection solvent is run to demonstrate no carryover between injections on the instrument

Reviewed and approved by Regina Wixon, Ph.D.

Performed By:

South Dakota Agricultural Laboratories
1335 Western Avenue
Brookings,South Dakota 57006
Phone: 605-692-7325
E-Mail: regina.wixon@sdaglabs.com

Collected By:

Nebraska Dept. of Environment & Energy-David Schum
245 Fallbrook Blvd
Lincoln ,NE 68521
Phone: 402-471-4709
E-Mail: david.schumacher@nebraska.gov

Report Date: 2021-03-24 **Preliminary Report**

South Dakota Agricultural Laboratories has examined the sample of

Limfinite Package Id :	20210305-004
Lab Sample Id :	21PE001512
Customer Sample Id :	Biochar Furnace
Sample Description :	Biochar
Date Collected :	2021-03-03
Date Received :	2021-03-05

RESULTS

ANALYTE	UNIT	AS RECEIVED	DETECTION LIMIT	METHOD	DATE OF EXTRACTION	DATE OF ANALYSIS
Abamectin	ppb	31.2	10		2021-03-16	2021-03-17
Acetamiprid	ppb	ND	5	JAOACI 86(5)	2021-03-08	2021-03-09
Azoxystrobin	ppb	6.91	5	LC-MS/MS	2021-03-08	2021-03-10
Brassinazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Clothianidin	ppb	ND	5	JAOACI 86(5)	2021-03-08	2021-03-09
Cyproconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Desthio-Prothioconazole	ppb	10.1	5	LC-MS/MS	2021-03-08	2021-03-08
Difenoconazole	ppb	15.2	5	LC-MS/MS	2021-03-08	2021-03-08
Dimoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Dinotefuran	ppb	ND	5	JAOACI 86(5)	2021-03-08	2021-03-09
Epoxiconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Fluconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Fluoxastrobin	ppb	120	5	LC-MS/MS	2021-03-08	2021-03-10
Glufosinate	ppb	ND	10	J. Agric. Food Chem. 34 535-538	2021-03-08	2021-03-11
Glyphosate	ppb	ND	10	J. Agric. Food Chem. 34 535-538	2021-03-08	2021-03-11
Imidacloprid	ppb	<5	5	JAOACI 86(5)	2021-03-08	2021-03-09
Ipconazole	ppb	41.6	5	LC-MS/MS	2021-03-08	2021-03-08
Isavuconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Metconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Nitenpyram	ppb	ND	5	JAOACI 86(5)	2021-03-08	2021-03-09
Orysastrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Picoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Propiconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Prothioconazole	ppb	20.2	5	LC-MS/MS	2021-03-08	2021-03-08

Pyraclostrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Ravuconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Sulfonic Acid Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-23
Tebuconazole	ppb	17.7	5	LC-MS/MS	2021-03-08	2021-03-08
Tetraconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Thiabendazole	ppb	30.6	5	LC-MS/MS	2021-03-08	2021-03-08
Thiacloprid	ppb	ND	5	JAOACI 86(5)	2021-03-08	2021-03-09
Thiamethoxam	ppb	10.7	5	JAOACI 86(5)	2021-03-08	2021-03-09
Trifloxystrobin	ppb	5.43	5	LC-MS/MS	2021-03-08	2021-03-10
Uniconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Voriconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08

QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb	21PE001511	75.9	ND	ND	ND
Acetamiprid	ppb	21PE001511	102	ND	ND	ND
Azoxystrobin	ppb	21PE001511	112	ND	ND	ND
Brassinazole	ppb	21PE001511	88.6	ND	ND	ND
Clothianidin	ppb	21PE001511	127	ND	ND	ND
Cyproconazole	ppb	21PE001511	89.4	ND	ND	ND
Desthio-Prothioconazole	ppb	21PE001511	81.7	ND	ND	ND
Difenoconazole	ppb	21PE001511	99.5	ND	ND	ND
Dimoxystrobin	ppb	21PE001511	109	ND	ND	ND
Dinotefuran	ppb	21PE001511	88.7	ND	ND	ND
Epoxiconazole	ppb	21PE001511	115	ND	ND	ND
Fluconazole	ppb	21PE001511	115	ND	ND	ND
Fluoxastrobin	ppb	21PE001511	119	ND	ND	ND
Glufosinate	ppb	21PE001511	103	ND	ND	ND
Glyphosate	ppb	21PE001511	101	ND	ND	ND
Imidacloprid	ppb	21PE001511	108	ND	ND	ND
Ipconazole	ppb	21PE001511	104	ND	ND	ND
Isavuconazole	ppb	21PE001511	114	ND	ND	ND
Metconazole	ppb	21PE001511	108	ND	ND	ND
Nitenpyram	ppb	21PE001511	125	ND	ND	ND
Orysastrobin	ppb	21PE001511	96.4	ND	ND	ND
Picoxystrobin	ppb	21PE001511	113	ND	ND	ND
Propiconazole	ppb	21PE001511	94.0	ND	ND	ND
Prothioconazole	ppb	21PE001511	85.8	ND	ND	ND
Pyraclostrobin	ppb	21PE001511	107	ND	ND	ND
Ravuconazole	ppb	21PE001511	82.0	ND	ND	ND
Sulfonic Acid Prothioconazole	ppb	21PE001511	121	ND	ND	ND
Tebuconazole	ppb	21PE001511	107	ND	ND	ND
Tetraconazole	ppb	21PE001511	82.1	ND	ND	ND
Thiabendazole	ppb	21PE001511	103	ND	ND	ND
Thiacloprid	ppb	21PE001511	106	ND	ND	ND
Thiamethoxam	ppb	21PE001511	97.6	ND	ND	ND
Trifloxystrobin	ppb	21PE001511	115	ND	ND	ND
Uniconazole	ppb	21PE001511	88.2	ND	ND	ND
Voriconazole	ppb	21PE001511	83.7	ND	ND	ND

Comments:

Definitions:

ppb - parts per billion

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Reviewed and approved by Regina Wixon, Ph.D.

Submitted by the customer:

Azoles, Neonics, Strobins, OP, Abamectin

20210305-004
21PE001509-1512

South Dakota Agricultural

20210305-004
21PE001509-001512

Pesticide Residue Sample Submission Form

South Dakota Agricultural Laboratories
1335 Western Avenue
Brookings, SD. 57006
(605) 692-7325

Test #1-1444 1509
Test #2-1443 1510
Bio Char Bagged 1511
Bio Char Furnace 1512

Name: Dave Schumacher *Sample ID: Bio Char Furnace 1512
Address: 245 Fallbrook Blvd. City: Lincoln State: NE
Zip: 68521 Phone: (402) 471-4709 **Email: david.schumacher@nebraska.gov

**Sample ID must be marked clearly on the sample you submit. **Results will be emailed to the provided email address.*

Billing Information: ☐ Check box if billing is the same as the customer information P.O. Box 98922
Name: Nebraska Dept. of Environment and Energy Address: 245 Fallbrook Blvd.
City: Lincoln State: NE Zip: 68521
Phone: (402) 471-4709 Email: NDEE.accounting@nebraska.gov

Individual tests are $162 each, unless otherwise marked. Scans are $212 and include all of the compounds in a particular category. Acceptable samples include Vegetation, Water or Soil. Call to confirm other substrates. Invoices can be sent ~~electronically~~ to: NDEE.accounting@nebraska.gov

Thank you for choosing South Dakota Agricultural Labs! We do add analytes to our testing regiment throughout the year. If a chemical of interest is not listed, please call us:
(605) 692-7325.

How much sample should you send?

Please send 30g of vegetation or 100g of soil to run an individual test. What does this look like? For vegetation, it would be about a quart sized bag packed full. If more than one test is required, please fill a gallon sized bag. For soil samples, please send 2 cups, if more than one test is required send 4 cups.

Analyses offered

Please turn page over to view the current pesticide analyses.

If you are interested in a screen of active ingredients, please check the box next to the **bold-faced** heading. This will include all active ingredients within the PGR screen for $212.

Example: PGR Screen ☑

If you are interested in single analyses, please circle the active ingredients. The cost of each individual analyte is $162 unless otherwise marked.

Example: (Mesotrione)

Sample(s) Received at SD Ag Labs
Date 2021-03-05
Received by
Alyssa Kennedy